Hurricane Ivan Wind Distribution

Landfall Expected Within **24** Hours

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Most Probable Landfall Wind Distribution

This hurricane scenario is based on a High Category 3 storm making landfall in near proximity to Mobile, AL. A small amount of Cat 4 winds were included in immediate coastal areas and barrier islands.

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/15/2004)*** forecast.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Wind Field

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

Generated By:
Terry Siemsen

Generated Date:
0630 EDT
09/15/2004

Hurricane Ivan Debris Model

Landfall Expected Within **24** Hours

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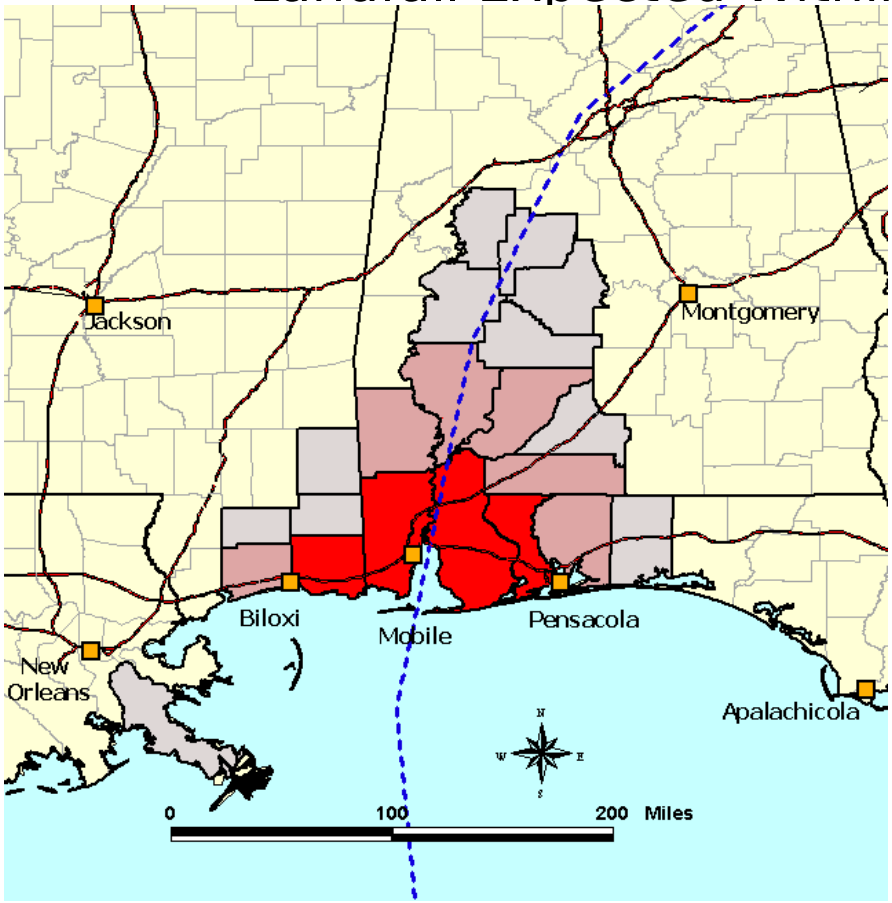

Most Probable Landfall Debris Model Results

Alabama – 14,630,000 yd^3
Mississippi – 1,464,000 yd^3
Florida – 2,545,000 yd^3
Louisiana – 6,000 yd^3

Model results per county on following page

This hurricane scenario is based on a High Category 3 storm making landfall in near proximity to Mobile, AL. A small amount of Cat 4 winds were included in immediate coastal areas and barrier islands.

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/15/2004)*** forecast.

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Debris Model

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

Generated By:
Terry Siemsen

Generated Date:
0630 EDT
09/15/2004

Hurricane Ivan Debris Model

Landfall Expected Within **24** Hours

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State	Yards per State	County	Yards per County
Alabama	14,630,000		
		Baldwin	3,330,000
		Clarke	165,000
		Conecuh	44,000
		Dallas	26,000
		Escambia	126,000
		Hale	13,000
		Marengo	29,000
		Mobile	10,600,000
		Monroe	122,000
		Perry	19,000
		Washington	134,000
		Wilcox	22,000
Florida	2,545,000		
		Escambia	2,100,000
		Okaloosa	89,000
		Santa Rosa	356,000
Louisiana	6,000		
		Plaquemines	6,000
		St Bernard	< 1,000
Mississippi	1,464,000		
		George	36,000
		Greene	< 1,000
		Harrison	218,000
		Jackson	1,210,000
		Stone	< 1,000
TOTAL	18,645,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Debris Model

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

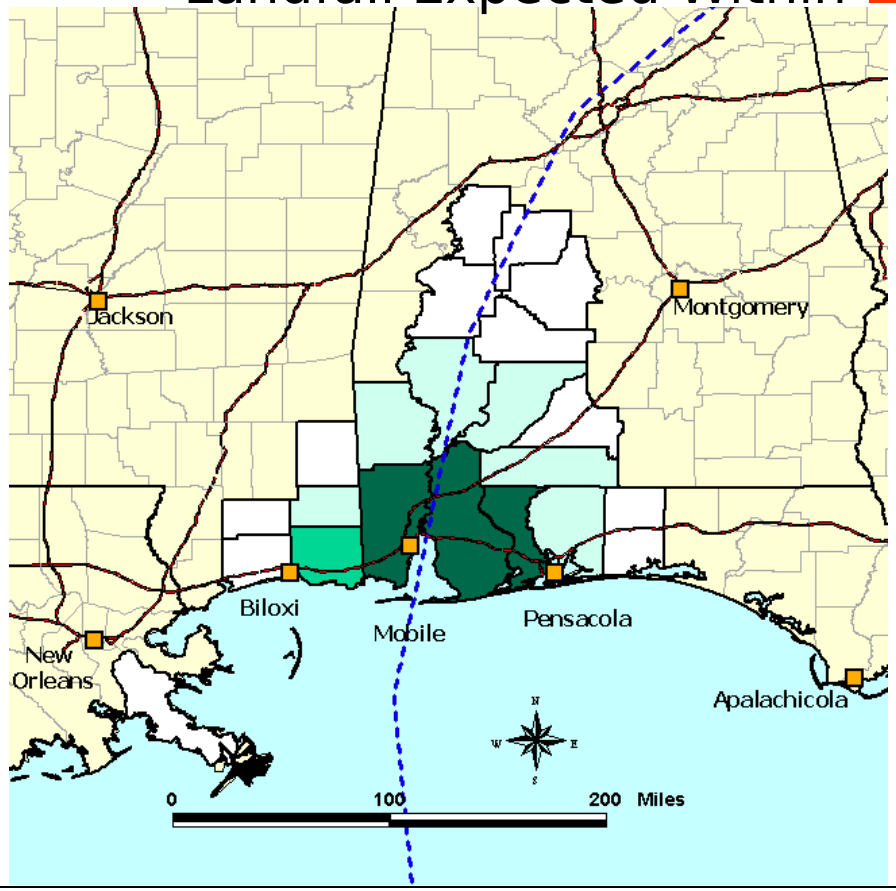
Generated By:
Terry Siemsen

Generated Date:
0630 EDT
09/15/2004

Hurricane Ivan Ice Model

Landfall Expected Within **24** Hours

For Official Use Only!



Most Probable Landfall Ice Model Results

Alabama - 2,080,000 pounds
Mississippi – 225,000 pounds
Florida – 615,000 pounds

Model results per county on following page

This hurricane scenario is based on a High Category 3 storm making landfall in near proximity to Mobile, AL. A small amount of Cat 4 winds were included in immediate coastal areas and barrier islands.

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/15/2004)*** forecast. The intensity of this hurricane has been altered to complete model runs.

The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per day per person) and Ice SME input and represents a first day daily need.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Ice Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/15/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Ivan Ice Model

Landfall Expected Within **24** Hours

For Official Use Only!

State	Pounds per State	County	Pounds per County
Alabama	2,080,000		
		Baldwin	557,000
		Clarke	17,000
		Escambia	2,000
		Mobile	1,492,000
		Monroe	2,000
		Washington	10,000
Florida	615,000		
		Escambia	598,000
		Santa Rosa	17,000
Mississippi	225,000		
		George	1,000
		Jackson	224,000
TOTAL	2,920,000		

The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per person) and Ice SME input and represents a first day daily need. The assumption in this scenario is that 60% of the resident population affected by Ivan will have power outage in this area will cause a need for ice.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Ice Model

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

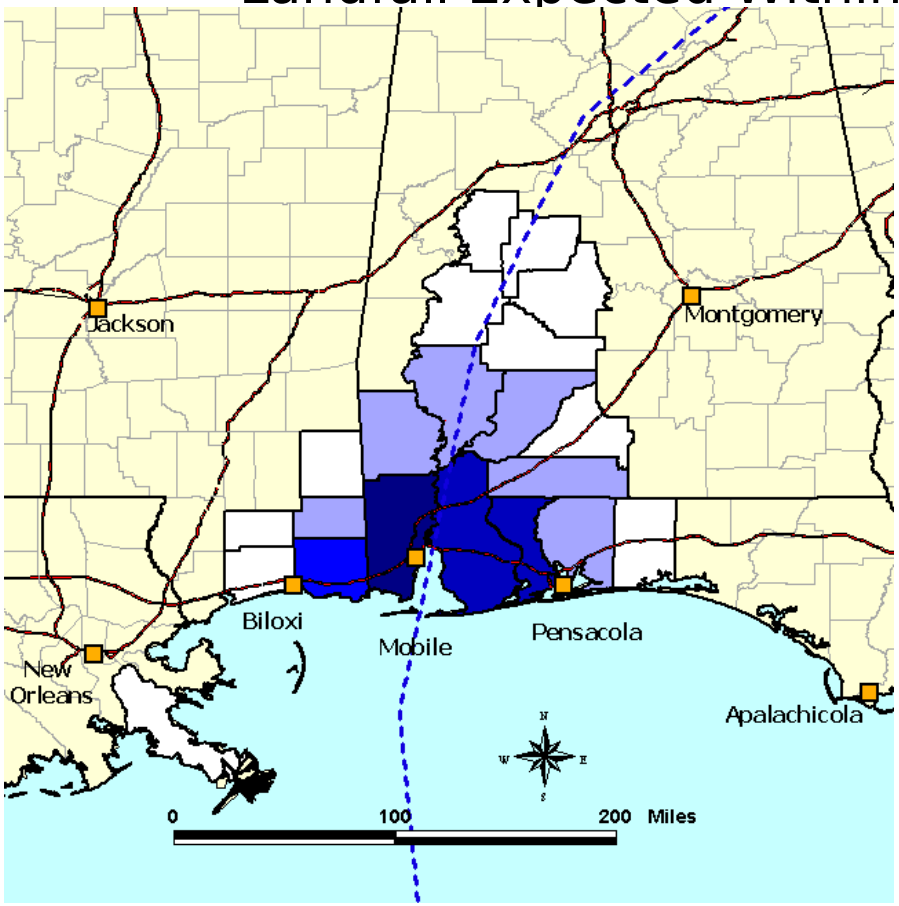
Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/15/2004

Hurricane Ivan Water Model

Landfall Expected Within **24** Hours

For Official Use Only!



Most Probable Landfall Water Model Results

Alabama – 1,037,000 Liters
Mississippi – 113,000 Liters
Florida – 308,000 Liters

Model results per county on following page

This hurricane scenario is based on a High Category 3 storm making landfall in near proximity to Mobile, AL. A small amount of Cat 4 winds were included in immediate coastal areas and barrier islands.

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/15/2004)*** forecast.

The amount of water forecasted is based on Mission Guide Book requirements (4 liters per person per day) and Water SME input and represents a first day daily need.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Water Model

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/15/2004

Hurricane Ivan Water Model

Landfall Expected Within **24** Hours

For Official Use Only!

State	Liters per State	County	Liters per County
Alabama	1,037,000		
		Baldwin	275,000
		Clarke	10,000
		Escambia	1,000
		Mobile	745,000
		Monroe	1,000
		Washington	5,000
Florida	308,000		
		Escambia	298,000
		Santa Rosa	10,000
Mississippi	113,000		
		George	1,000
		Jackson	112,000
TOTAL	1,458,000		

The amount of water forecasted is based on Mission Guide Book requirements (4 liters per person) and Water SME input and represents a first day daily need. The assumption in this scenario is that 60% of the resident population affected by Ivan will have power outage in this area will cause a need for water.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Water Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/15/2004

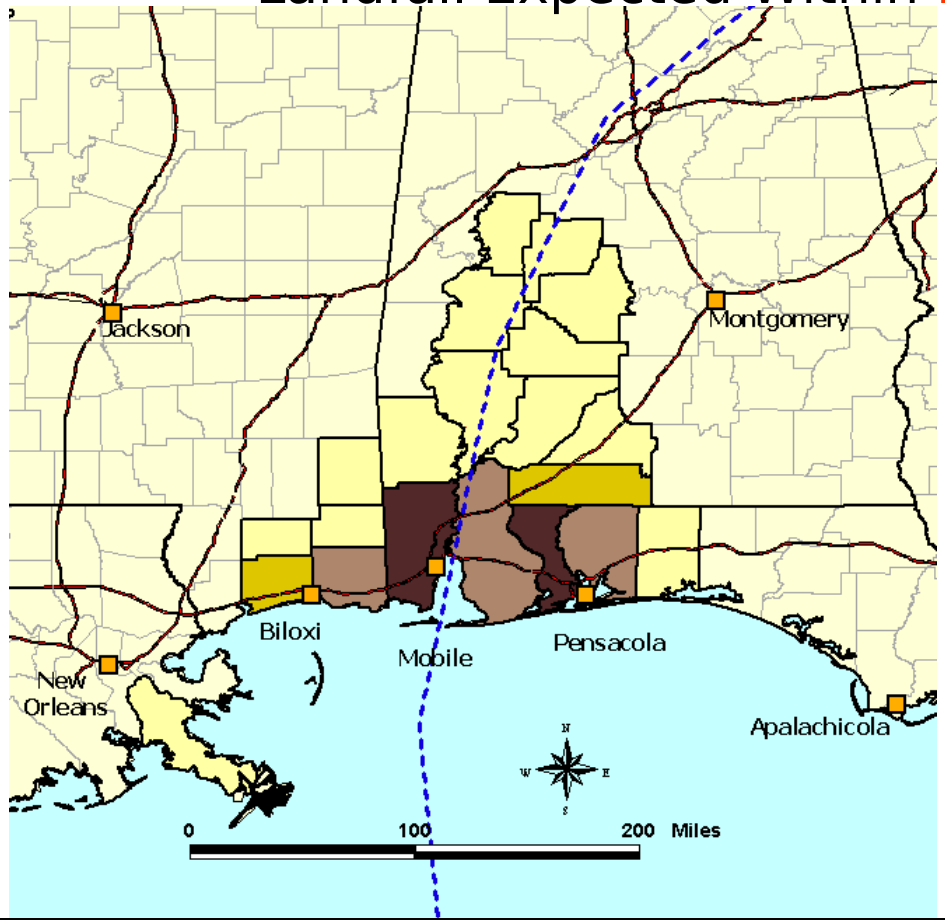
CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Ivan Population Model

Landfall Expected Within **24** Hours

For Official Use Only!



Most Probable Landfall Population Model Results

Alabama - 645,000 persons
Mississippi - 227,000 persons
Florida - 421,000 persons
Louisiana - 3,000 persons

Model results per county on following page

This hurricane scenario is based on a High Category 3 storm making landfall in near proximity to Mobile, AL. A small amount of Cat 4 winds were included in immediate coastal areas and barrier islands.

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/15/2004)*** forecast.

The number of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Population Model

Sources:
HURREVAC
LRL-DEBRIS

CELRL-OP GIS Group

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/15/2004

Hurricane Ivan Population Model

Landfall Expected Within **24** Hours

For Official Use Only!

State	Population per State	County	Population
Alabama	645,000		
		Baldwin	140,000
		Clarke	24,000
		Conecuh	1,000
		Dallas	< 1,000
		Escambia	31,000
		Hale	2,000
		Marengo	7,000
		Mobile	400,000
		Monroe	16,000
		Perry	9,000
		Washington	10,000
		Wilcox	5,000
Florida	421,000		
		Escambia	295,000
		Okaloosa	10,000
		Santa Rosa	116,000
Louisiana	3,000		
		Plaquemines	3,000
		St Bernard	< 1,000
Mississippi	227,000		
		George	15,000
		Greene	< 1,000
		Harrison	80,000
		Jackson	132,000
		Stone	< 1,000
TOTAL	1,296,000		

The number of persons estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Population Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/15/2004

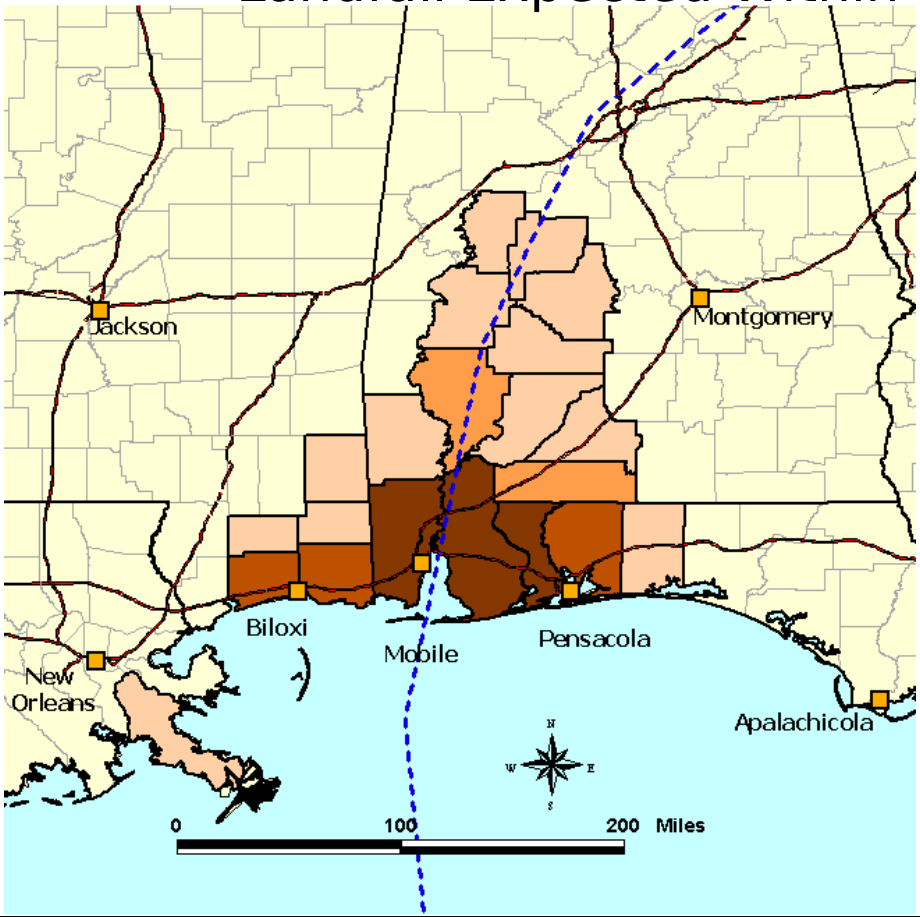
CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Ivan Households Model

Landfall Expected Within **24** Hours

For Official Use Only!



Most Probable Landfall Households Model Results

Alabama - 265,000 households
Mississippi - 84,000 households
Florida - 158,000 households
Louisiana - 1,000 households

Model results per county on following page

This hurricane scenario is based on a High Category 3 storm making landfall in near proximity to Mobile, AL. A small amount of Cat 4 winds were included in immediate coastal areas and barrier islands.

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500 EDT 09/15/2004)*** forecast.

The number of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at
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or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Households Model

Sources: HURREVAC LRL-DEBRIS	**CELRL-OP GIS Group**
Generated By: Terry Siemsen **Generated Date** 0630 EDT 09/15/2004	Page 1 of 2

Hurricane Ivan Households Model

Landfall Expected Within **24** Hours

For Official Use Only!

State	Households per State	County	Households
Alabama	265,000		
		Baldwin	55,000
		Clarke	9,000
		Conecuh	< 1,000
		Dallas	< 1,000
		Escambia	11,000
		Hale	< 1,000
		Marengo	25,000
		Mobile	150,000
		Monroe	6,000
		Perry	3,000
		Washington	4,000
		Wilcox	2,000
Florida	158,000		
		Escambia	111,000
		Okaloosa	4,000
		Santa Rosa	43,000
Louisiana	1,000		
		Plaquemines	< 1,000
		St Bernard	< 1,000
Mississippi	84,000		
		George	5,000
		Greene	< 1,000
		Harrison	31,000
		Jackson	48,000
		Stone	< 1,000
TOTAL	508,000		

The number of households estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan Households Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
09/15/2004

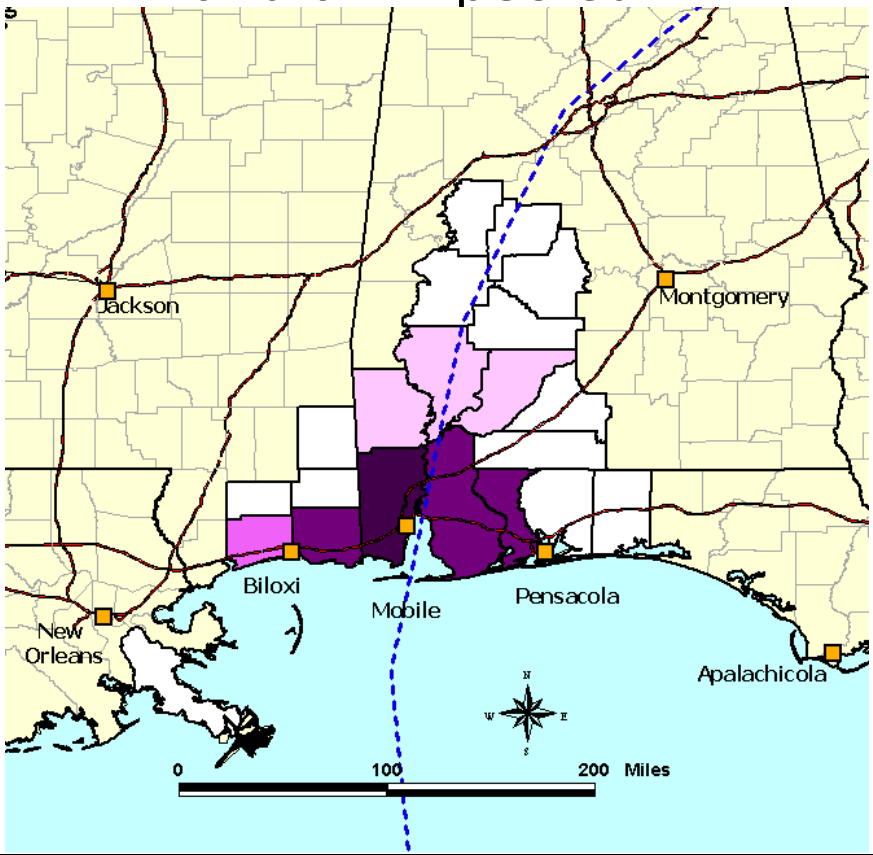
CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Ivan
Temporary Housing Model Results

For Official Use Only!

Landfall Expected Within **24** Hours



Most Probable Landfall Temporary Housing Model Results

Alabama – 21,500 structures
Mississippi – 8,500 structures
Florida – 7,000 structures

Model results per county on following page

This hurricane scenario is based on a High Category 3 storm making landfall in near proximity to Mobile, AL. A small amount of Cat 4 winds were incl
ar

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC *(0500 9/15/2004)* forecast.

The amount of temporary housing that may be required is based on no housing need in CAT 1 wind areas, no housing need in CAT 2 wind areas, 4% of housing units lost in CAT 3 wind areas, and 8% of housing units lost in CAT 4 wind areas

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ivan emp Housing Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
9/15/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Ivan
Temporary Housing Model Results

For Official Use Only!

Landfall Expected Within **24** Hours

State	Structures per State	County	Structures
Alabama	21,500		
		Baldwin	7,000
		Clark	1,500
		Mobile	11,000
		Monroe	1,000
		Washington	1,000
Florida	7,000		
		Escambia	7,000
Mississippi	8,500		
		Jackson	6,000
		Harrison	2,500

THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!

The amount of temporary housing that may be required is based on no housing need in CAT 1 wind areas, no housing need in CAT 2 wind areas, 4% of housing units lost in CAT 3 wind areas, and 8% of housing units lost in CAT 4 wind areas

Details about this model may be obtained at
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US Army Corps of Engineers

Hurricane Ivan emp Housing Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
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Generated Date
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9/15/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Ivan
Temporary Roofing Model Results

Landfall Expected Within **24** Hours

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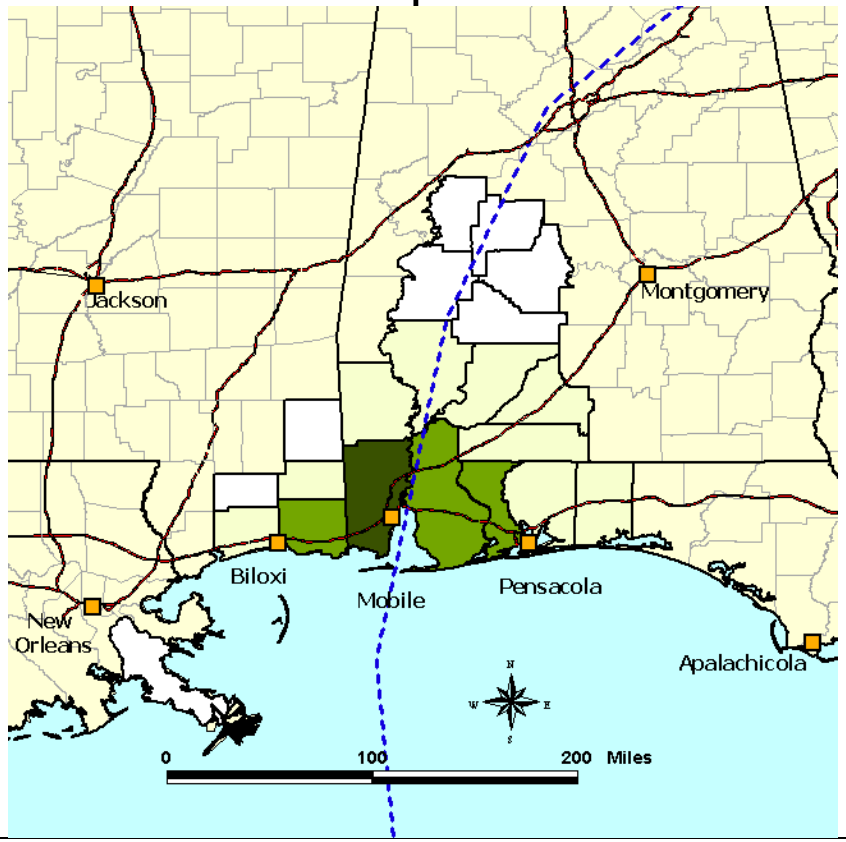

Most Probable Landfall Temporary Roofing Model Results

Alabama – 26,550
Mississippi - 8,250
Florida – 6,500

Model results per county on following page

This hurricane scenario is based on a High Category 3 storm making landfall in near proximity to Mobile, AL. A small amount of Cat 4 winds were included in immediate coastal areas and barrier islands.

Information provided on this page displays the most probable hurricane track based on information from the National Hurricane Center (NHC). These projections are based on information from the NHC ***(0500EDT 9/15/2004)*** forecast.

The amount of temporary roofing that may be required is based on no roofing need in CAT 1 wind areas, no roofing need in CAT 2 wind areas, 4% of housing units damaged in CAT 3 wind areas, and 8% of housing units damaged in CAT 4 wind areas. This only indicates possible need – not necessarily a mission to repair roofs.

Details about this model may be obtained at
https://englink.usace.army.mil
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US Army Corps of Engineers

Hurricane Ivan Temp Roofing Model

Sources:
HURREVAC
LRL-DEBRIS

Generated By:
Terry Siemsen

Generated Date
0630 EDT
9/15/2004

CELRL-OP GIS Group

Louisville Operations Division GIS

Hurricane Ivan
Temporary Roofing Model Results

For Official Use Only!

Landfall Expected Within **24** Hours

State	Structures per State	County	Structures
Alabama	26550		
		Baldwin	7,000
		Clarke	400
		Conecuh	50
		Escambia	550
		Mobile	18,000
		Monroe	350
		Washington	200
Florida	6500		
		Escambia	6,000
		Okaloosa	450
		Santa Rosa	50
Mississippi	8250		
		George	150
		Harrison	100
		Jackson	8,000

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The amount of temporary roofing that may be required is based on no roofing need in CAT 1 wind areas, no roofing need in CAT 2 wind areas, 4% of housing units damaged in CAT 3 wind areas, and 8% of housing units damaged in CAT 4 wind areas. This only indicates possible need – not necessarily a mission to repair roofs.

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US Army Corps of Engineers

Hurricane Ivan emp Roofing Model

Sources:
HURREVAC
LRL-DEBRIS

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9/15/2004

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